

## ABSTRACT OF THE DISCLOSURE

More selective and efficient Ni hydrotreating catalysts are those which contain more than about 60 % of the Ni content on the peripheral surface of porous supports, such as extruded alumina, which may be obtained by spraying an atomized solution of a Ni compound onto the support and drying it at a temperature in the range of from 200 to 600°C. When used, for example, to remove acetylenic compounds from butadiene streams, higher recovery of the desired butadiene with lower acetylenic content and low heavy polymer deposition is obtained than was possible with prior catalysts.